

# Recombinant Human IL-1 alpha

Catalog # FL145

## Product Specifications

Appearance	Sterile filtered White lyophilized (freeze-dried) powder.
Purity	> 97% by SDS-PAGE or HPLC.
Endotoxin	< 0.01 EU/ $\mu$ g of rHuIL-1 $\alpha$ protein as determined by LAL method.
Expression System	Expressed in E. coli.
Species	Human
Tag	Tag free.
Activity	Fully biologically active when compared to standard. The ED50 as determined by a cell proliferation assay using murine D10S cells is less than 1.0 pg/ml, corresponding to a specific activity of $\geq 1.0 \times 10^9$ IU/mg.
Formulation	Lyophilized from a 0.2 $\mu$ m filtered concentrated solution in 25 mM Tris, 3 mM $\beta$ -Me, pH 8.0.
Reconstitution	Before use this product, please read the direction below carefully. This vial must be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in a sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/ml. Stock solutions should be apportioned into working aliquots and stored at $\leq -20^\circ\text{C}$ . Further dilutions should be made in appropriate buffered solutions.
Accession #	P01583 Ser113-Ala271
Amino acid sequence	SAPFSFLSNVKYNFMRIIKYEFILNDALNQSIIIRANDQYLTAALHNLDEAVKFDMGAYKSSKDDAKITVILRISKTLQYVTAQDEDQPVLLKEMPEIPKTIITGSETNLLFFWETHGTKNYFTSVAHPNLFIAATKQDYWVCLAGGPPSITDFQILENQA
Molecular weight	Approximately 18.0 kDa, a single non-glycosylated polypeptide chain containing 159 amino acids.
Synonyms	Hematopoietin-1, Lymphocyte-activating factor (LAF), Endogenous Pyrogen (EP), Leukocyte Endogenous Mediator (LEM), Mononuclear Cell Factor (MCF)
Stability & Storage	Shipped on wet ice. For long term storage, the product should be stored $\leq -20^\circ\text{C}$ . Please avoid repeated freeze-thaw cycles after reconstitution. 36 months from date of receipt, $-20$ to $-70^\circ\text{C}$ as supplied. 1 month, $2$ to $8^\circ\text{C}$ under sterile conditions after reconstitution. 3 months, $-20$ to $-70^\circ\text{C}$ under sterile conditions after reconstitution.
Precautions	Recombinant Human IL-1 alpha is for research use only and not for use in diagnostic or therapeutic procedures.

## Background

IL-1 $\alpha$  is a non-secreted, proinflammatory cytokine produced in a variety of cells, including monocytes, tissue macrophages, keratinocytes, and other epithelial cells. It possesses metabolic, physiological, hematopoietic activities, and plays one of the central roles in the regulation of the immune responses. Both IL-1 $\alpha$  and IL-1 $\beta$  bind to the same receptor and have similar, if not identical, biological properties. These cytokines have a broad range of activities including the stimulation of thymocyte proliferation by inducing IL-2 release, B cell maturation and proliferation, mitogenic FGF-like activity and the release of prostaglandin and collagenase from synovial cells. However, whereas IL-1 $\beta$  is a secreted cytokine, IL-1 $\alpha$  is predominantly a cell-associated cytokine. Among various species, the amino acid sequence of mature IL-1 alpha is conserved 60% to 70% and human IL-1 has been found to be biologically active on murine cell lines. Recombinant Human IL-1 $\alpha$  is an 18.0kDa protein containing 159 amino acid residues.

